

Listing of Claims

Claims 1-23 (Cancelled)

24) (New) An evanescent optically coupled electronic device comprising:

A) a backplane wave guide or mother board comprising a set of parallel carriers that define a first plurality of parallel channels and include a first array of optical fibers having exposed cores in said first plurality of parallel channels;

B) at least one electronic card or daughter board including a high speed optical waveguide bus;

C) a flexible fiber ribbon or film including waveguides comprising individual optical fibers of locally increased refractive index joined by a web of suitable material forming said high speed optical waveguide bus and optically connecting said backplane waveguide and said at least one electronic card with no 90° angle turns; and

D) a mechanism for retaining said first array of optical fibers having exposed cores in abutting and facing evanescent optical contact with said individual optical fibers in said flexible fiber or ribbon.

25) (New) The evanescent optically coupled electronic device of claim 24 wherein said a mechanism for retaining said first array of optical fibers having exposed cores in abutting and facing evanescent optical contact with said individual optical fibers in said flexible fiber or ribbon comprises a frame about said set of

parallel carriers and said individual optical fibers in said flexible fiber or ribbon and in said frame a mechanism for applying pressure to said first array of optical fibers and said individual optical fibers to assure intimate evanescent contact therebetween.

26) (New) The evanescent optically coupled electronic device of claim 25 wherein the mechanism for applying pressure comprises a member selected from the group consisting of: A) one or more locking screws mounted in the frame; and B) at least one calibrated spring inserted into the frame.

27) (New) The evanescent optically coupled electronic device of claim 26 wherein said frame comprises an enclosed structure having a top a bottom and opposed sides connecting the top and the bottom, said first array of optical fibers having exposed cores in abutting and facing evanescent optical contact with said individual optical fibers in said flexible fiber or ribbon are located in one corner of said enclosed structure against one of said walls and either said top or said bottom and said mechanism for applying pressure comprises a pair of locking screws, one of which penetrates said top or said bottom and the other of said locking screws penetrates one of said walls thereby applying pressure to said opposing parallel carriers from two orthogonal directions.

28) (New) The evanescent optically coupled electronic device of claim 27 further including a pressure distribution plate between said first array of optical

fibers and said mechanism for applying pressure to provide even distribution of pressure to the pair of opposing and parallel carriers.

29)(New) The evanescent optically coupled electronic device of claim 28 further including a layer of index matching fluid between said individual optical fibers in said flexible fiber or ribbon and first array of optical fibers having exposed cores.

30)(New)The evanescent optically coupled electronic device of claim 24 wherein said individual optical fibers and said first array of optical fibers comprise D-shaped optical fibers.

31)(New) The evanescent optically coupled electronic device of claim 24 wherein said individual optical fibers and said first array of optical fibers comprise polymeric or glass optical fibers.